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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/689,482	10/20/2003	Xie Shao	27615-CNT2	7931

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EXAMINER
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LEE, SIN J

ART UNIT	PAPER NUMBER
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1752

DATE MAILED: 07/12/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/689,482

Applicant(s)

SHAO ET AL.

Examiner

Sin J. Lee

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 22 April 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 3-5, 16, 24, 25, 27, 36, 39, 41 and 45-47 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 3-5, 16, 36, 45 and 47 is/are allowed.
- 6) ☒ Claim(s) 24, 25, 27, 39, 41 and 46 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

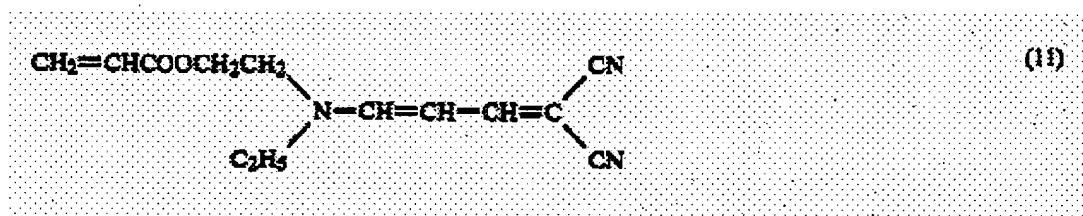
### DETAILED ACTION

1. Applicants canceled claims 11-15 and 17-19.
2. Due to newly cited prior arts the following rejections are made non-final.

#### ***Claim Rejections - 35 USC § 102***

3. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
4. Claims 39, 24, 25, 27, and 46 are rejected under 35 U.S.C. 102(b) as being anticipated by Kojima et al (4,43,534).

Kojima teaches a silver halide photographic light sensitive material containing ultraviolet ray absorbing polymer latex (see abstract). As one of examples for the UV absorbing polymer latex, Kojima discloses a copolymer of compound (11), which structure is shown below, and n-butyl acrylate (see col.13, lines 54-57, col.14, lines 50-51);



The copolymer made from the compound (11) shown above teaches present polymer binder of structure (IX) of claims 39 and 46 because the -CN group is present EWG, present R<sub>1</sub> can be an alkyl or heteroalkyl group, and in the Kojima's copolymer, the UV absorbing moiety is bonded to the polymer backbone through those alkyl groups. Also, Kojima teaches (see col.8, lines 28-42) the use of an organic solvent for the polymer.

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Therefore, Kojima teaches present inventions of claims 39, 24, 25, and 46 (it is the Examiner's position that the composition composed of Kojima's copolymer and the organic solvent would inherently be capable of being used for microlithographic processes).

With respect to present claim 27, Kojima teaches (col.5, lines 23-31, lines 55-59) the equivalence of -CN group (Kojima's R3) and -CONHR<sub>5</sub> (where R<sub>5</sub> being an alkyl group). Since the prior art teaches the equivalence of the -CN group and -CONHR<sub>5</sub> group, one skilled in the art would immediately envisage replacing one of the -CN group in the compound (11) shown above with the -CONHR<sub>5</sub> group (which is also an electron withdrawing group). Therefore, the prior art teaches present invention of claim 27.

5. Claim 41 is rejected under 35 U.S.C. 102(b) as being anticipated by Usagawa et al (JP 63056651 and its Chem. Abstract 1988:619489).

Full, formal English translation of the Japanese document has been submitted. Only the English abstract is available at this time.

Usagawa teaches (see Chem. Abstract) a photosensitive material containing a UV-absorbing compound residue-containing polyurethane or polyurea, which has the repeating structure Q-(-Y-)<sub>n</sub>, in which Q represents UV-absorbing compound residue; Y = O, or NR (in which R = H, alkyl, cycloalkyl, Ph); and n = 2-4. Usagawa teaches that isocyanates and an UV-absorbing compound having OH or NH<sub>2</sub> groups may be polymerized to give the polyurethane or polyurea. Specifically, Usagawa discloses (see Chem. Abstract) a polyurethane, which is a polymerized product of [Me(CH<sub>2</sub>)<sub>5</sub>]<sub>2</sub>N-CH=CH-CH=C(NC)-C(=O)-N(CH<sub>2</sub>CH<sub>2</sub>-OH)<sub>2</sub> and 5-isocyanato-1-(isocyanatomethyl)-

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1,3,3-trimethylcyclohexane. Since  $-C(=O)-N<$  moiety is an EWG, and since the polyurethane would have the UV-absorbing compound bonded to the polyurethane backbone through the  $-C(=O)-N<$  moiety, Usagawa teaches present invention of claim 41 (it is the Examiner's position that Usagawa's photosensitive material would inherently be capable of being used for microlithographic processes).

***Allowable Subject Matter***

6. Claims 3-5, 16, 36, 45, and 47 are allowed. None of the cited prior arts teaches or suggests present non-aromatic light attenuating compounds of claims 36, 45, and 47, which are bonded to the polymer binder.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sin J. Lee whose telephone number is 571-272-1333. The examiner can normally be reached on Monday-Friday from 9:00 am EST to 5:30 pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cynthia Kelly, can be reached on 571-272-1526. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

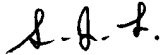
Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should

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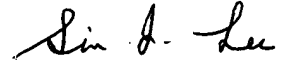
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you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



S. Lee  
July 9, 2005



**SIN LEE**  
**PRIMARY EXAMINER**